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Periodicals and newspapers as indicated.

IMPROVE SOVIET AUTOMOTIVE PRODUCTION, METHODS AND QUALITY

URAL FLANT MODERNIZES ZIS -- Moscow, Avtomobil'naya i Traktornaya Promyshlennost', Feb 51

The specifications of the new ZIS-5 three-ton truck are as follows: weight, 3,400 kilograms; full weight with a load of 3.5 tons, 7,040 kilograms; motor, 88 horsepower, 2,400 revolutions per minute; maximum speed, 70 kilometers per hour; gasoline consumption, 33 liters per 100 kilometers on third and fourth-class roads.

The usable length of the body platform has been increased 300 millimeters. The compression ratio has been increased from 5.3 to 5.9 by replacing pig-iron cylinders with aluminum ones, installing thin-walled bushings in the crankshaft bearings, and improving the lubrication system. The voltage of the ignition system has been raised to 12 volts, and the motor's horsepower raised from 77 to 88. Cylinder sleeves are now used, and porous-chrome plating of piston rings has been adopted. The drive shaft and the belt drive of the generator from the crankshaft pulley have both been equipped with ball bearings. The propeller shaft has an open-type joint on needle bearings and an intermediate flange on the frame-cross member. The number of teeth on the reduction gear has been increased from nine to 11, the profile of the teeth has been changed, and sturdier bearings have been installed. The new reduction gear has been installed on all trucks since the beginning of 1950. The plant has just put out the first lot of trucks with sturdier axle shafts made of 35KhGSA steel instead of 40Kh steel, increasing shaft strength 20-30 percent and breakdown torsional moment from 1,210-1,270 to 1,500-1,600 kilograms. The front axle king-pin diameter was increased to 30 millimeters and magazine lubrication such as that used on the GAZ-51 was installed.

The new steering apparatus has a worm and double roller and is, to a great extent, standardized with the GAZ-51 steering apparatus. Its transmission ratio is now 20.5, enough for easy steering of the truck. The steering-gear shaft is now mounted on the frame near the spring joint, greatly reducing oscillation of the wheels.

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The modernized truck has a 1025-steel frame, which is not heat-treated. The truck's all-wooden cab has been replaced by a wooden cab with metal covering. Eventually the cab will be all metal. The platform has been strengthened, and front and rear springs improved. In a test run, a Ural ZIS made an average speed of 28 kilometers per hour over third and fourth-class roads, while a ZIS-5 was limited to 20 kilometers per hour by its springs.

The Ural Automobile Plant is modernizing the ZIS-5 truck by gradually replacing old units with new ones. At present, trucks are leaving the conveyer with many new units such as hydraulic brakes, stronger rear-axle-reduction gears, and folding-spare-vheel holders. -- S. A. Kurov, Ural Automobile Plant imeni Stalin

DEFECTIVE FILTERS CAUSE FUEL-SYSTEM WEAR -- Moscow, Mashino-Traktornaya Stantsiya, Dec 50

This year, in Krasnodarsk, it was noted that the fuel systems of S-30 and DT-54 tractors were out rapidly after 400-600 hours of operation. A control test by the Armavir Experimental Station VIM (All-Union Institute for the Mechanization of Agriculture) showed that this rapid wear resulted from improper assembly at the plant, which rendered the filter elements of the fuel filters inoperative, and from failure to check correctness of assembly in the tractor brigades.

On most of the tractors inspected, the filter cores protruded above the plate after being assembled, so that when the cover plate was attached, it pressed the filter element down and formed a gap 3-5 millimeters wide between the plate and the filter. The fuel flowed through this gap instead of through the filter element, rendering the filter useless.

REPLACE BABBITT BEARINGS WITH ROLLER BEARINGS -- Moscow, Mashino-Traktornaya Stantsiya, Dec 50

The A-22 one-cylinder, two-cycle petroleum motor, used on most kolkhozes and MTS, is so designed that the main bearings cannot be adjusted. The babbitt-lined bearings and the shaft collar wear down after a short time and a gap is formed, lowering the compression and, consequently, the power of the engine. The main crankshaft journals can be reground only three times. A significant shortcoming of the bearings is that very scarce babbitt is needed for them.

Any MTS workshop with a DIP lathe can replace the babbitt-lined main bearings of this motor with ball or roller bearings. Such converted motors were completely serviceable after 7 months of operation. Installation of ball or roller bearings increased the motor's power 2-3 horsepower and increased the life of the crankshaft ten times.

BUILD COLD-BURNISFING DEVICE -- Moscow, Mashino-Traktornaya Stantsiya, Oct 50

The BN babbitt compound used for tractor bearings shrinks considerably after lining because of its toughness, which makes it necessary to adjust the bearings often, especially in the beginning of the tractor's use. The lack of stands for cold burn'shing in a number of MTS limits the repair shops to scraping the bearings and then running them in on an assembled tractor. The Uyuk Sovkhoz, Tuvinskaya Autonomous Oblast, has built a device, simple to const uct and convenient to operate, which burnishes bearings lined with BN babbitt compound in 30 minutes.

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USE BRONZE ALLOYS FOR VACUUM CASTING -- Moscow, Avtomobil'naya i Traktornaya Promyshlemnost', Jan 51

OTs-10-2, OTsS-6-6-3, and OTsS-5-5-5-bronze alloys, and AZh-9-4-aluminum-ferrous bronze are being used for the vacuum-suction casting of small rods and bushings.

CARBURETOR PLANT SETS NEW GOALS -- Moscow, Moskovskaya Pravda, 27 Feb 51

The Moscov Carburetor Plant increased commercial production more than 4.5 times during the postwar Five-Year Plan and more than tripled the effectiveness with which basic resources of the enterprise are utilized. Even though the production program for the first quarter is approximately 14 perent greater than for the corresponding period last year, while the personnel remains the same, the plant has decided to complete the quarter plan 12 days ahead of time, by 18 March. The plant will organize the mass output of 100 different bicycle parts, an entirely new product for this plant, by the time the Ninth City Party Conference opens.

The plant will organize a division for electric polishing of parts, will institute anode-mechanical sharpening and electrolytic hardening of tools, will adopt electric-spark processing in production, particularly in hardening tools and dies, and will use high-frequency current more extensively.

INCREASE MOTORCYCLE OUTPUT -- Moscow, Moskovskaya Pravda, 10 Mar 51

The Moscow Motorcycle Plant has increased the output and lowered the production cost of motorcycles. For 2 months it has produced 21 percent more machines than in the corresponding period last year. More than half the shops have gone over to collective Stakhanovite labor, in which every worker exceeds his assignment.

CITE 1950 PRODUCTION FIGURES FOR UKRAINE -- Kiev, Pravda Ukrainy, 28 Jan 51

The Statistical Administration Ukrainian SSR announced the following increases in 1950 production as compared to 1949: bicycles, 129 percent; and motorcycles, 171 percent.

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